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REMARKS

Claims 1-17 are presented. Claim 1 is independent, and the rest are dependent.

On page 2 of the Office action, claims 1-11, 14, 16 and 17 are rejected under 35 U.S.C. §102(b) as being anticipated by a U.S. patent to Jensen et al. No. 6,085,869. On page 3 of the Office action, claim 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over the Jensen et al. patent in view of a U.S. patent to Hecht et al. No. 6,176,131; and claims 12 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Jensen et al. patent in view of a U.S. patent to Jorgensen et al. No. 6,425,414. The Examiner contends that every feature recited in each of claims 1-11, 14, 16 and 17 is disclosed by the Jensen et al. patent. The Examiner recognizes that no single document relied upon is a complete anticipation of any of claims 12, 13 and 15 but contends that the respective combinations of the documents applied to the several claims would have made the invention as defined in those claims obvious to a person having ordinary skill in the art.

The claims have all been amended by amendment of independent claim 1 to define the invention more precisely.

The rejections as applied to the amended claims are respectfully traversed.

The claims as amended and resubmitted are directed to a flow sensor comprising a housing with at least two housing sections and forming a measuring conduit between at least some of the housing sections. A semiconductor chip is provided comprising a sensor element

arranged at a wall of the measuring conduit. A sealing ring is arranged between two of the housing sections and surrounding the semiconductor chip. The sealing ring presses against a support formed by at least one of the housing sections. The semiconductor chip is completely arranged within an area enclosed by the sealing ring, and at least one strip conductor is connected to the semiconductor chip and extends from the semiconductor chip between the support and the sealing ring and out of the housing.

The invention as defined by the amended claims is well supported by the application as originally filed (see, for example, 2:10-13 and Figs. 4 and 6-8) and is neither disclosed nor suggested by the documents relied upon in the Office action. As the application explains at 1:27-29, an object of the invention is to provide a flow sensor that is able to withstand high pressure. A passage at 2:12-15 explains that this object is achieved by placing the semiconductor chip (which carries the actual sensor) .. *within* an area enclosed by the sealing ring and by using at least one strip conductor leading from the semiconductor chip to external components arranged outside the housing. This is e.g. shown in Fig. 4 of the application, where 3 denotes the semiconductor chip, 31 denotes the sealing ring and 9 a foil carrying strip conductors.

With this design, the chip is located fully on the high-pressure side of the sealing ring, and only the strip conductor extends to the low-pressure side. Conventional sensors, as in Jensen et al., are designed so that part of the semiconductor chip is located on the high-pressure side, and part on the low-pressure side of the sealing ring, which makes sealing more difficult.

Moreover, the Jensen et al. patent disclose a pressure sensor, while claim 1 relates to a

flow sensor. Pressure sensors and flow sensors are very different types of devices, and it is clear that a pressure sensor cannot *anticipate* a flow sensor. For this reason alone, the rejection of claims 1-11, 14, 16 and 17 under 35 U.S.C. §102(b) is unsustainable.

The Examiner identifies the claim's "strip conductor" with the strip conductors 6 of Jensen et al. The amended language of claim 1 negates that construction. The semiconductor chip is completely arranged within an area enclosed by the sealing ring, and the strip conductor extends between the support and the sealing ring. Hence, the strip conductor is not surrounded by the sealing ring, but the semiconductor chip is. This is not the case in Jensen et al, where the semiconductor chip 1 extends through the gap between the sealing rings 16, 17, i.e. the semiconductor chip is not surrounded by the sealing rings.

The design according to the invention as defined by the resubmitted claims is more advantageous than that of Jensen et al. In order to withstand high pressure, the sealing rings 16, 17 of Jensen et al. must provide a tight seal against the semiconductor chip. This is difficult because the chip is structured and not completely flat. This means that the sealing rings, in order to form a reliable seal, must press very strongly against the chip, which is undesirable in view of possible damage to the chip.

The Hecht et al. patent is cited for a disclosure of a sealant paste/protective coating, and the Jorgensen et al. patent is cited for a disclosure of a plurality of bumps/ridges. These additional disclosures do not address the deficiency of the Jensen et al. patent as a suggestion of the present invention.

Moreover, the Jorgensen et al. patent discloses a fluid management system. The Examiner relies on 12:12 - 22 for rejecting claims 12 and 13. However, that passage describes the mechanical set-up of a tube manifold, not of a sensor. Nor do the ridges disclosed there serve any purpose comparable to the one of the bumps 21 of the present device.

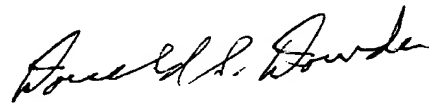
Accordingly, withdrawal of the rejections under 35 U.S.C. §102(b) and 103(a) is respectfully requested.

The dependent claims recite additional features supporting their patentability. None of the cited documents shows a flexible support foil as recited in claim 6. The Examiner rejects claim 6 as being anticipated by Jensen et al. but does not explain where Jensen et al. are supposed to disclose any such feature. Similarly, Jensen et al. do not disclose the measuring duct and connecting ducts recited in claim 7, the arrangement of groove and chip of claim 10, or the spacer of claim 11.

Issuance of a Notice of Allowance is respectfully solicited.

If a telephone interview would expedite the examination of the application, the Examiner is requested to call undersigned counsel.

Respectfully submitted,
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VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Claim 1 has been amended as follows:

--1. (Amended) A flow sensor comprising
a housing with at least two housing sections and forming a measuring conduit between
at least some of said housing sections,
a semiconductor chip comprising a sensor element arranged at a wall of the measuring
conduit,
a sealing ring arranged between two of said housing sections and surrounding said
semiconductor chip, said sealing ring pressing against a support formed by at least one of said
housing sections, wherein said semiconductor chip is completely arranged within an area
enclosed by said sealing ring, and
at least one strip conductor connected to the semiconductor chip and extending from
said semiconductor chip between said support and said sealing ring and out of said housing.--